Ellen S. Ferry CIVITAS Explanation

Ah, the research paper; a feared and respected assignment by most all students in high school, and one that requires a great deal of time and effort to complete. For my CIVITAS application, I have chosen to submit a research paper I completed for a College English class. There are many ways I feel this paper gives insight to the type of learner I am, and how I would positively contribute to the CIVITAS community of learners.

The research paper is indeed an intimidating assignment. What I later discovered is that the most difficult part of putting together a well done research paper lies not in actually constructing the paper, but in choosing a topic you are interested in. How can this be? With so many options, how is it difficult to pick a subject? I've realized that the reason it is so difficult is because, generally, a student's first tendency seems to be to take the easy way out. With the research paper, there simply isn't a way to do so! It's nearly impossible to pick a topic you know a lot about already. The research paper requires exactly what the name entails: research!

In choosing my research essay topic, I had quite a few options. In the end, I ended up choosing wind power. It was something I knew hardly anything about, other than that windmills are really big and somehow produce power. However, I figured that with the new "go green," attitude that is currently at large, the topic of wind power would be relatively easy to research. I was, to some degree, looking for the easiest option. I wanted to learn and discover, but initially, I was drawn to what I hoped would make my life the easiest.

And then, I began research. I discovered that research was indeed easy, in that information was everywhere. But I also realized that it was rather difficult, in that there was such a multitude of information that not only fulfilled my paper's requirements, but had my mind deeply intrigued! I found myself thirsting to discover more. I not only wanted to produce a solid, well written paper, but I desired to go above and beyond the requirements. I wanted to understand wind power more than I ever had before. Wind power is such a vast topic! I was going to focus solely on the fact that it is a clean alternative energy source, but began reading about its environmental impact and economic benefits, and just had to include that in my paper as well. I later developed this research paper into an Original Oratory speech, which brought me much success throughout the high school speech season.

The CIVITAS Program is intriguing because I know it will stretch my thinking in the same way writing this research paper has. Throughout high school, I have grown as a student who completes her studies, yes; but I have also become a learner who seeks to not only complete assignments, but to understand and develop a more broad understanding of the world. I have developed into someone who not only wishes to fulfill the requirements (like I initially did with my paper) but who also relishes learning.

Writing my wind power research paper showed me how satisfying learning can be. I want to continue searching for knowledge, and being a part of the CIVITAS program will help me do so. I will learn what is required, but I will also be able to truly dive into an advanced, rich curriculum. I feel that my desire to learn, and motivation to succeed, make me an excellent candidate for the CIVITAS program.

Wind Power - An Answer for the Future?

Ellen Ferry

Mrs. Deborah Darchuk

College Writing

18th November 2009

Wind Power – An Answer for the Future?

- I. Introduction
 - A. Energy crisis
 - B. Presidential quotes
 - 1. Richard Nixon
 - 2. Jimmy Carter
 - C. Thesis: Wind power, an answer for the future
 - D. Pros and cons overview
- II. Environmental Disadvantages
 - A. Harm to wildlife
 - 1. 40,000 to 100,000 birds killed a year
 - 2. Golden eagle and sage grouse
 - B. Noise
 - C. Looks
- III. Environmental Advantages
 - A. Can't lose sight of benefits
 - 1. Global warming reduction
 - B. Turbines safer than predecessors
 - C. Technology development and noise reduction
 - D. Placement
 - 1. Audubon quote
 - E. Looks are subjective, opinion
- IV. Economic Disadvantages

- A. Large initial investment
- B. Good sites often are remote; distribution?
 - 1. Time magazine quote
- C. Intermittent wind
 - 2. U.S. Dep. Of Energy on intermittency
- V. Economic Advantages
 - A. New jobs
 - 1. Dep. of Energy Quote, 138,000 new jobs
 - B. Rural area revenue
 - 1. No impact on agriculture
 - 2. Extra income to farmers
 - C. Improve national electric grid
 - 1. Current grade "D"
 - 2. American Society of Civil Engineers on demand and distribution issue
- VI. Security
 - A. Dependency on foreign countries for fuel
 - B. Potential of wind power, a domestic source
 - 1. PNAS quote
 - C. Clean, environmental friendly solution
 - 2. 4% of world population uses 25% of global supply
 - 3. Growing population; energy consumption will only increase
- VII. Conclusion
 - A. Can't afford to wait, wind power is a solution for the future

- B. Environment review
 - 1. U.S. Dep. of Energy quote
 - 2. Advantages compensate for disadvantages
 - 3. Improving technology
- C. Economy review
 - 1. New jobs
 - 2. Local economies
 - 3. Good use of land
 - 4. Energy grid push
- D. Security review
 - 1. Assurance in future
 - 2. No more dependency
 - 3. Domestic capacity is incredible
- E. The time is now, and the future is in our hands

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The energy crisis is nothing new. For too long America has put off and ignored a critically relevant and ever-growing problem; a problem that is at the heart of ongoing issues, which include the condition of our environment, the downturn of our economy, and the state of our national security. For the past thirty five years, promises have been made, plans have failed, and the problem still remains. Said President Richard Nixon, in his State of the Union Address in January of 1974 (qtd. in Promises Without a Plan 1):

"Let this be our national goal: At the end of this decade, in the year 1980, the United States will not be dependent on any other country for the energy we need to provide our jobs, to heat our homes, and to keep our transportation moving."

We are still in a dire state of dependence on oil today. Here is a quote from President Jimmy Carter, during his "Crisis of Confidence" speech in July of 1979 (qtd.in Promises Without a Plan 1):

"I am tonight setting a clear goal for the energy policy of the United States. Beginning this moment, this Nation will never use more foreign oil than we did in 1977 – never."

In the seventies, we imported 24% of our oil. Today, we import nearly 70% - and the numbers continue to climb (The Plan 1).

Reagan, Clinton, Bush, and the latest, President Barack Obama, are also among those who have made promises to fix the state of addiction to foreign oil. The use of dirty fossil fuels has hurt the American economy and has directly contributed to the negative effects of global warming. Something needs to be done. America needs to turn to a new, healthier and more efficient source of energy.

I believe wind power is the answer for the future. The use of wind power has developed from an abstract idea into a feasible source to fuel America. Steve Zwolinski, the president of General Electric Wind Energy, feels that wind power is no longer a simple idea of little importance. It has developed into a major and dependable source of energy. "When wind projects were discussed twenty years ago, you could safely say that they were science projects. They've come of age now, and they're really a viable technology" (Kirsner 5).

Wind turbines offer many positive advantages. They boost the economy, on a local level as well as on a national scale. Wind power is a clean energy source, and unlike dirty fossil fuels, helps protect our planet by reducing pollution and lowering the amount of harmful emissions that contribute to global warming. Above all, energy by means of wind is completely renewable, and is a domestic source which we need not depend on other countries for.

While these advantages can't be ignored, there are critics and skeptics who have their own views about wind power. If wind turbines are supposed to be good for the environment, what is to be said about their lethal effects on birds? How about the noise produced from the large

turbines, whom many consider to be horrible eyesores that tarnish the countryside? Investing in these large, hideous structures is initially expensive, and while it may be true that there is an unlimited supply of wind, how is the resulting energy to be distributed? Undoubtedly, just as the advantages of wind power need to be taken into account, the disadvantages also need to be addressed.

Indeed, one of the first and foremost limitations of wind power is the fact that turbines can pose a threat to wildlife. This may seem rather implausible, but the numbers don't lie. Each year, an estimated 40,000 to 100,000 birds die from collision with the large blades of turbines (Nijhuis 4). If wind farms are located in the wrong places, they can impact and fragment critical habitat. The golden eagle is one species that has been affected in the state of California. Sage grouse, in parts of the plains states, are already endangered and could potentially be pushed closer to extinction, due to habitat loss (Flicker 1). However, while this may be an alarming and repulsive factor in determining the true validity of wind power, one cannot lose sight of the more important benefits of wind, and the fact that many of these issues, if appropriately addressed, can be resolved. Audubon magazine, which has a long history of involvement in wildlife issues, strongly agrees.

Audubon Washington's Tim Cullinan, the director of science and conservation, couldn't say it better. "We can't lose sight of the larger benefits of wind. The direct environmental impacts of wind get a lot of attention, because there are dead bodies on the ground. But nobody ever finds the bodies of birds killed by global warming, or by oil drilling on the North Slope of Alaska. They're out there, but we don't see them" (Nijhuis 6).

To overlook the environmental benefits of wind, and its part in the reduction of pollution, would be a serious mistake. It should also be noted that wind turbines today are much safer for birds than their predecessors, and the technology continues to develop (Flicker 1). Furthermore, as turbine technology improves, the level of noise that the structures produce is increasingly diminished (Advantages and Disadvantages of Wind Energy 2). Another key factor in making turbines safe for our environment simply has to do with their placement. With proper planning and citing of wind projects, harm to birds can greatly be reduced. The following was reported in the magazine Audubon, in December of 2006:

For <u>Audubon</u>, wind power is good news, bad news story. The good news is that many new wind power projects are being proposed across the country...The bad news is that wind turbines sometimes kill a lot of birds...On balance, <u>Audubon</u> strongly supports wind power as a clean alternative energy source that reduces the effect of global warming. Location, however, is important (Flicker 1).

Another issue that commonly arises is the aesthetic impact of turbines. This, however, is extremely subjective. While it is true that many think wind farms are horrible eyesores, an opinion is an opinion. Many people may hold the belief that turbines add to views.

With technology on our side, and the proper citing of wind plants to consider, the ability to take full advantage of all the environmental benefits of wind is irresistible. The environmental benefits clearly outweigh the possible, yet resolvable, impairments to our environment.

The next major aspect of wind power is how it affects the economy. Wind power does come with the disadvantage of a large initial investment, and often good wind sites are remote and far

from cities where electricity is needed. How is the energy to be distributed? According to a recent article in <u>Time (magazine</u>, some of the best wind sources are far from densely populated areas like the coasts (Walsh 3). The article also states that "though the price of power from the wind has dropped in recent years, it's still more expensive than most electricity from coal or natural gas" (Walsh 3).

Cost is important, but wind energy is an investment that will pay off for years to come.

According to a 2007 Department of Energy study, "building out our wind capacity in the great plains – from Northern Texas to the Canadian border – would produce 138,000 new jobs in the first year" (qtd. at PickensPlan.com).

In addition to creating new jobs, wind farms bring revenue to rural areas. Wind turbines have minimal impact on the land where they are located. They have no affect on agriculture, and farmers are still able to use the land for farming and grazing. At the same time, farmers gain extra income from the lease of their property to wind generation companies.

What about the distribution? Indeed, the drastic potential for new jobs and the perks to rural areas are very beneficial, but how is energy to be transferred to areas where it is needed, particularly highly populated areas? Furthermore, the wind does not blow constantly, and on a large scale, how is the problem of intermittency to be solved (Advantages and Disadvantages of Wind Energy 1)?

The answer to these questions is a better national electric grid. A new and updated grid would compensate for intermittency, with turbines across the country supporting one another, and would allow for power to be delivered where and when it is needed (Walsh 3). On its

"Report Card for American Infrastructure," the American Society of Civil Engineers gave the current energy grid a "D" (1). An explanation was given about the current conditions of our grid, in the following conclusion by the American Society of Civil Engineers:

Sources sources used to support support The [current] transmission and distribution system has become congested because growth in electricity demand and investment in new generation facilities has not been matched by the investment in new transmission facilities. This congestion virtually prohibits outages required for proper maintenance and can lead to system wide failures in the event of unplanned outages (1).

Clearly, from an economic standpoint, the development of wind facilities and use of wind energy has a lot to offer. Wind plants produce new jobs, and are an efficient use of land that brings revenue to rural areas. America could truly capitalize on all the benefits of wind power, and solve the issue of growing power consumption with insufficient distribution facilities, simply by investing in a new electrical grid, which is desperately in need of update regardless. President Obama has already started investing in the modernization of our national grid. He announced on October 27th, 2009, that as a part of the economic stimulus package, \$3.4 billion in grants would fund the venture of improving the nation's electrical grid (Fletcher 1). Obama's vision includes creating a clean energy economy which would reduce dependency on foreign oil. Changing our energy habits relies on establishing a better electric grid, and the worthwhile effort is already underway. As president Obama stated at a turbine factory in Iowa on Earth Day, "... [Investing in wind power] is a win-win. It's good for the environment; it's great for the economy" (Walsh 1).

In addition to all the outstanding environmental and economic benefits wind power has to offer, perhaps one of the most important aspects of wind energy is its ability to unbind the hands of an America that is fatally dependent on oil from other countries.

The sheer potential of wind energy that can be harnessed here in the United States is immense. According to an article in Time magazine, in a new study by the Proceedings of the National Academy of Science, (PNAS), astounding results were discovered about the capacity of wind power (Walsh 2).

"A team led by Michael McElroy at Harvard University assessed the global capacity for wind power...For the U.S., there's enough wind concentrated in the Midwest prairie states to supply as much as sixteen times the current American demand for electricity. The energy is there, on the breeze – it just needs to be tapped" (Walsh 2).

Wind energy is renewable, and it is a domestic source. There is so much clean, environmental-friendly energy available to us right here in the United States. Undeniably, America's power consumption is continually growing, and dirty, non-renewable fossil fuels are running out. Wind power removes our dependency on foreign oil. The United States uses 25% of the global supply of oil every day; and we only account for a mere 4% of the world population (Savage 1)! The sad truth is that we are using a substantial amount of fuel now, and it is likely that our demands will only increase. The good news is that there are healthier options available. Instead of sending our money to other countries for fuel that will one day, inevitably, fail us, we can look to the wind as a solution, that is not only environmental friendly, but also economically ideal. The development

of wind as a power source is an opportunity to better America as an independent nation. Our security depends on finding new energy alternatives. Investing in wind could be our first step.

The environment, the economy, and the future security of the United States are all affected by the present decisions we make concerning energy. We cannot afford to wait any longer. The time has come to move forward into creating a healthier, more economically stable and independent nation. With wind power leading the way, what is there to lose?

The environment will be the first thing to benefit from a shift to wind power. The amount of global warming gases that can potentially be reduced is tremendous. As reported by the U.S. Department of Energy, an estimated 7,600 million tons of carbon dioxide could be avoided if we were to increase our nation's wind energy capacity to 20% by the year 2030 (Advantages and Disadvantages of Wind Energy 1). When looking at the fatal effects of wind power plants on birds, the environmental advantages of wind energy far more than compensate. As wind technology improves, more can be done to insure the safety of wildlife, and more can be learned about the best way to incorporate turbines into the environment, with little to no negative impact.

The economy is the next figure to benefit. An astounding number of new jobs would arise from a change to wind power, and local economies would grow and prosper. With wind power, agriculture can continue, and farmers can gain extra revenue, all while providing clean energy and making good use of the land. A new national energy grid is already being called for, and incentives from wind energy can give the extra push that is needed to make it happen.

Lastly, and perhaps most importantly, by investing in wind energy, we as Americans can have assurance in our energy future. No longer will we have to depend on foreign countries for oil.

The capacity and potential of wind power is incredible, right here on U.S. soil.

Our questions need not concern if moving in the direction of wind power is right. Our questions should be about when we can start. The time is now, and the future is in our hands – or should I say, "on the breeze?"

Wonderful writing incorporated incorporated well.

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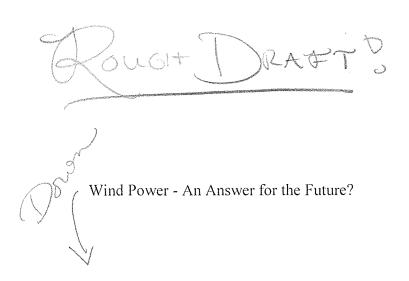
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College Writing

18th November 2009

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While these advantages can't be ignored, there are critics and skeptics who have their own views about wind power. If wind turbines are supposed to be good for the environment, what is to be said about their lethal effects on and birds? How about the noise produced from the large

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turbines, whom many consider to be horrible eyesores that tarnish the countryside? Investing in these large, hideous structures is initially expensive, and while it may be true that there is an unlimited supply of wind, how is the resulting energy to be distributed? Undoubtedly, just as the advantages of wind power need to be taken into account, the disadvantages also need to be addressed.

Indeed, one of the first and foremost limitations of wind power is the fact that turbines can pose a threat to wildlife. This-may seem rather implausible, but the numbers don't lie. Each year, an estimated 40,000 to 100,000 birds die from collision with the large blades of turbines (Nijhuis 4). If wind farms are located in the wrong places, they can impact and fragment critical habitat. The golden eagle is one species that has been affected in the state of California. Sage grouse, in parts of the plains states, are already endangered and could potentially be pushed closer to extinction, due to habitat loss. However, while this may be an alarming and repulsive factor in determining the true validity of wind power, one cannot lose sight of the more important benefits of wind, and the fact that many of these issues, if appropriately addressed, can be side-stepped. Audubon magazine, which has a long history of involvement in wildlife issues,

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In addition to all the outstanding environmental and economic benefits wind power has to offer, perhaps one of the most important aspects of wind energy is this: the ability it has to unbind the hands of an America that is fatally dependent on oil from other countries.

The sheer potential of wind energy that could be harnessed here in the United States is immense. According to an article in Time magazine, in a new study by the Proceedings of the National Academy of Science, (PNAS), astounding results were discovered about the capacity of wind power.

"A team led by Michael McElroy at Harvard University assessed the global capacity for wind power...For the U.S., there's enough wind concentrated in the Midwest prairie states to supply

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The environment, the economy, and the future security of the United States are all affected by the present decisions we make concerning energy. We cannot afford to wait any longer. The time has come to move forward into creating a healthier, more economically stable and independent nation. With wind power leading the way, what is there to lose?

The environment will be the first thing to benefit from a shift to wind power. The amount of global warming gases that can potentially be reduced is tremendous. As reported by the U.S.

Department of Energy, an estimated 7,600 million tons of carbon dioxide could be avoided if we were to increase our nation's wind energy capacity to 20% by the year 2030 (Advantages and Disadvantages of Wind Energy 1). When looking at the fatal effects of wind power plants on

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Lastly, and perhaps most importantly, by investing in wind energy, America can have assurance in its energy future. No longer will we have to depend on foreign countries for oil. The capacity and potential of wind right here in the U.S. is incredible.

Our questions need not concern if moving in the direction or wind power is right. Our questions should be about when we can start. The time is now, and the future is in our hands.

NAME ZILLON

ARGUMENTATIVE PAPER - 320 POINTS

- I. Content 125 POINTS
 - A. Relates to Subject (follows thesis) 1-20
 - B. Introduction 1-20
 - C. Body
 - 1-25
 - D. Pro's
- 1-20
- E. Con's
- 1-20
- F. Conclusion
- 1-20
- II. Technical Skills 80 POINTS
 - A. Outline
 - B. Title Page

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C. Works Cited

- 1-15
- D. Parenthetical Referencing
- 10 1-10

- E. Quotation
 - paraphrasing
- 1-10 10
- quotes under 4 lines
- 1-10 10
- quotes over 4 lines
- 1-1010
- A. Spelling

- 1-25
- B. Sentence Construction
- 1-20

C. Punctuation

III. Grammar 75 POINTS

- 1-201 1-101
- D. Capitalization

- IV. Mechanics 40 POINTS
 - A. Length
- 1-10
- B. Neatness
- 1-10 10
- C. Notecards
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